



Post-Mortem Examination

Red Meat Code of Practice Chapter 7

20 March 2020

TITLE

Operational Code: Post-Mortem Examination

COMMENCEMENT

This Operational Code is effective from 20 March 2020.

ISSUING BODY

This Operational Code is issued by the Ministry for Primary Industries.

Dated at Wellington, 20 March 2020.

A handwritten signature in blue ink, appearing to read 'Marion Castle', followed by a comma.

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Introduction

This introduction is not part of the operational code, but is intended to indicate its general effect.

Purpose

To detail procedures or tests to be performed by a competent person on all relevant parts of slaughtered or killed large mammals and ostrich/emu with the aim of obtaining a judgement and disposition that considers safety and suitability for the intended purpose.

Background

This document outlines the practical requirements for post-mortem examination of animal material for human consumption. These requirements consist of general requirements applicable across all the red meat species, including Ostrich and Emu. In addition there are species-specific procedures and considerations that are listed separately.

Who should read this operational code?

This code contains specifications that apply to all primary processing of animal material from all mammals, farmed ostriches and emu, where the resulting product is intended for human consumption.

It should be read by risk management programme operators and ante-mortem and post-mortem examiners.

Why is this important?

Operating other than in accordance with this operational code is an offence under Part 10 of the Animal Products Act 1999.

Document History

Version Date	Section Changed	Change(s) Description
31 May 2015	All	Complete Review
March 2020	2.0 Mandatory Requirements 4.1 <i>Sheep and goat PM procedures</i>	Updated references to the APN: Specifications for Products Intended for Human Consumption 2016, amended 2019 testes – change from 'view' to 'nil' in table column 'when product is not saved for human consumption as food (inedible)'

Related Requirements

This document should be read in conjunction with:

- Animal Products Notice: Ante-mortem and Post-mortem examination of Mammals, Ostrich and Emu
- Presentation for Post-Mortem Examination, Red Meat Code of Practice Chapter 6
- Dispositions, Red Meat Code of Practice Chapter 8.
- [Animal Products Notice: Specifications for Products Intended for Human Consumption 2016, amended 2019](#)

Part 1: Requirements

1.1 Definitions

Approved Laboratory: a LAS laboratory (see the MPI website, www.mpi.govt.nz); and laboratories approved by the Director-General.

batch examination: the examination of tissues that have been placed in a lot before examination and where the identity of the individual animal from which the tissue was obtained can no longer be established.

examination: a set of procedures to determine whether product or by-product is fit for intended purpose.

Examination Service Provider: the provider of mandatory AM and PM examination service to the operator where the operator decides to outsource examination activities rather than provide them themselves. In some situations, this service may be provided in part by the operator. The delivery of this service must be in accordance with MPI and where applicable, OMAR requirements.

HC Spec: Animal Products Notice (Specifications for Products Intended for Human Consumption) 2016, amended 2019

incision: making one or more repeated parallel cuts according to the particular tissue, e.g. lymph node or muscle, and then viewing each cut surface, consistent with adequate examination.

palpation: the application of tactile pressure sufficient to detect lesions within the tissue.

Post Mortem (PM) examiner: a person recognised under the Animal Products Act 1999 for that function, or is an official assessor, or an animal product officer appointed under Part 7 of the Act.

SPVD: specified for veterinary disposition. These animals are usually designated as a suspect.

suspect: an animal or line of animals that displays symptoms or is suspected of having diseases or defects that may affect the suitability for processing, or the manner of processing of the animal. This may be because the suspected diseases or defects may affect disposition or because of the risk of contamination. This may include, but is not limited to:

- animals with clinical disease;
- Tb reactors;
- animals with declarations of disease by veterinary clinicians or farmers;
- animals from chemical residue or disease surveillance lists;
- animals covered by a supplier statement indicating an uncertain animal suitability status.

systemic disease: a disease which affects the body generally, usually through arterial spread.

view: to make such observations as are essential to determine the presence, character and extent of any condition that might have a bearing on the disposition of a carcass or any of its parts.

Part 2: Mandatory requirements

2.1 HC Spec: Competency

- (1) An operator's risk management programme must make provision, where appropriate, for the following:
 - a) persons responsible for the ante-mortem and post-mortem examination of mammals must meet the competency specification set out in Schedule 3 for ante-mortem and post-mortem examiners.

2.2 HC Spec: Skills maintenance and supervision

- (1) The operator must ensure that the skills of those persons involved in key tasks that could have a significant impact on the suitability for processing of animal material or the fitness for intended purpose of animal product, or who are required to carry out the activities listed in clause 5.2(2), are maintained on an ongoing basis.
- (2) The operator must keep records demonstrating that skills identification, achievement and maintenance is being carried out effectively.
- (3) Trainee ante-mortem and post-mortem examiners may carry out ante-mortem or post-mortem examinations as the case may be provided they are under the direct supervision of a person who meets the competency requirements of clause 5.2(2) and who is accountable for the decisions that are made.

2.3 HC Spec: Schedule 3 Competency specifications

2.3.1 Ante-mortem and post-mortem examiners of mammals

- (1) Ante-mortem and post-mortem examiners must hold one of the qualifications listed below. The qualifications held may be species specific. Also, it is not necessary for post-mortem examiners to hold qualifications for ante-mortem examination:
 - a) National Certificate in Meat Inspection Services, Registered by the New Zealand Qualifications Authority (NZQA);
 - b) Certificate of Meat inspection, issued by the Director, Meat Division, MAF;
 - c) Certificate of Competency for meat inspection issued by MAF Quality Management;
 - d) Qualification in Meat inspection issued by the Australian Quarantine and Inspection Service (AQIS);
 - e) Registration as a veterinarian under the Veterinarians Act 1994;
 - f) An alternative qualification accepted by the Director-General.
- (2) For the National Certificate in Meat inspection Services described in clause 5.2(2), an ante-mortem examiner must hold the Optional Advanced Meat Inspection Service Strand of that Certificate for the same species as the post-mortem qualification.
- (3) Any person applying to be accredited to perform ante-mortem or post-mortem examinations must have knowledge of all relevant specifications.

2.4 Animal Products (Export Requirement: Company Ante-Mortem and Post-Mortem Inspection) Notice 2013

2.4.1 General competencies

- (1) A company ante-mortem or post-mortem examiner must have knowledge of the relevant market access requirements and specifications and to the extent relevant to a company ante-mortem or post-mortem inspectors activities, the training programme must enable a company ante-mortem or post-mortem inspector to demonstrate an understanding of the Act, including;
 - a) the object of the Act; and
 - b) the role, responsibilities, and duties of inspection agency; and
 - c) the role of MPI in respect of administering the Act at meat plants; and
 - d) the relevant regulations, export requirements, notices and specifications made under the Act.

2.5 Animal Products Notice: Ante-mortem and Post-mortem Examination of Mammals, Ostriches and Emu Intended for Human Consumption

- (1) The post-mortem examination must be conducted so as to minimise cross-contamination between carcasses and in accordance with the procedures described in the Post-mortem Examination Procedures. In addition, the post-mortem examiner must undertake additional incisions, examinations and sampling if necessary to determine the presence, character and extent of any condition that may affect the fitness for intended purpose of the resulting animal product.

2.5.1 Specific examination requirements

- (1) If, under section 81 of the Act, the Director-General gives directions to the operator that certain kinds of animal material must be subjected to examination procedures that differ from those specified in the Post-mortem Examination Procedures, the operator must ensure that the post-mortem examiner is notified of the directions and the post-mortem examiner must comply with those directions.

Part 3: General procedures

- (1) PM examination procedures are to be applied as appropriate, to carcasses, heads and viscera so that a judgement can be made as to their fitness for intended purpose. Cross-contamination of the product, must be minimised.
- (2) PM examination can include sampling.

3.1 Ante-mortem (AM) examination

- (1) Animals must have been subjected to AM examination before receiving PM examination and evidence of this must be available. Information relating to the status of the animal must be provided to the PM examiner as appropriate prior to him/her performing PM examination, including whether the animal is:
 - a) a suspect animal (together with the reasons for being suspect);
 - b) a Tb reactor;
 - c) on a chemical residue list;
 - d) Johne's vaccinated;
 - e) on a disease surveillance suspect list;
 - f) subject to any other relevant issues described on the animal status declaration (ASD) form.
- (2) Killed wild mammals including game estate and farmed-gone-feral animals, do not require AM examination

3.2 Post-mortem (PM) examination requirements

- (1) Animal products must be examined according to the procedures provided in part 4. The PM examiner is authorised to make such incisions and examinations that are necessary to determine fitness for intended purpose. The PM examiner must indicate all disease and defects that need to be addressed and re-examined. If this is not practical, a system must be put in place indicating what (re-) examination procedures are required, e.g. re-examination of the whole carcass.

3.3 Re-examination

- (1) Once the disease or defect has been removed, re-examination by a PM examiner or competent detain personnel must occur. The re-examination only needs to apply to the disease or defect identified.
- (2) In some cases, suitable ancillary areas may be used instead of addressing the defects on the main chain or the retain rail.
- (3) Product may be retained for an extended period of time before the disposition to allow specific tests to be carried out. If extended retain is necessary prior to disposition, the operator must provide suitable facilities from a security and preservation perspective, as appropriate to the product and potential dispositions.

3.4 Documentation and approval of examination procedures

3.4.1 Examination service providers

- (1) Examination service providers must have a quality system, acceptable to the Director-General, which can reliably deliver:
 - a) performance targets;
 - b) statistical process control;
 - c) ongoing examiner competency; and

- d) examination in a manner that minimises distribution of contamination.

3.4.2 Operator's own examination system

- (1) Where the operator carries out PM examination, the system must be documented in the risk management programme and the requirements in section 3.4.1 above would apply.

3.4.3 Details of examination

- (1) The examination service provider must document the details of examination as relevant to the premises. These details must include:
 - a) notification of suspect animals;
 - b) the sequence(s) of examination procedures;
 - c) any specific examination procedures relating to overseas market access requirements;
 - d) methods of communication between PM examiners;
 - e) methods of communication between AM and PM examiners;
 - f) confirmation of the AM status of animals to the PM examiners;
 - g) handling of increased workload due to a high prevalence of diseases or defects;
 - h) the frequency of hand-washing, knife-sterilising and other hygiene measures of meat examiners;
 - i) methods of identification of diseases and defects for trimming, retain and re-examination purposes;
 - j) the collection and dispatch of diseases and defects information (refer to 3.5 The Provision of Disease and Defect Information);
 - k) the use of suitable ancillary areas;
 - l) procedures for product that is retained for extended periods (i.e. retained product not covered by main chain, retain rail and ancillary areas procedures);
 - m) batch examination systems;
 - n) a monitoring system to ensure performance targets are met;
 - o) a system that ensures all relieving examiners are familiar with and competent in all local procedures (on and off chain) together with records to substantiate this competency.

3.5 The provision of disease and defect information

- (1) The results of PM examination must be recorded and submitted to MPI. The details must include:
 - a) the type of disease and defect identified at examination;
 - b) the prevalence of each disease and defect type;
 - c) the number of carcasses condemned for each disease and defect type; and
 - d) the volume of kill to which the information relates.
- (2) The information must be supplied in the manner required by the Director-General, e.g. date, species, premises.

3.6 Monitoring PM examination performance

- (1) The Operator or Inspection Agency managing persons undertaking post-mortem activities must document procedures to monitor the performance of the post mortem examiners

3.7 Unusual lesions

- (1) **Suspect animals**
 - a) Follow specific instructions from ante-mortem examiner or Animal Products Officer.
 - b) Incise lymph nodes that are required to be examined.
 - c) Tb sampling procedures must be followed where suspected Tb lesions are identified.

(2) Injection-site lesion sampling

- a) Implement the procedure for Injection Site Lesions found at PM examination as per Notice of Direction under Section 81 of the Animal Products Act 1999 (Post Mortem Management of Animals with Injection Site Lesions or Unclear Treatment Status).

(3) Tissues missing at examination

- a) Implement the procedure for missing tissues where that tissue is required to be examined.

(4) Suspected hydatids

- a) Implement the procedure for suspected hydatid cysts.

(5) Caseous lymphadenitis

- a) Palpate the iliac lymph node.
- b) Palpate the ischiatic lymph node.
- c) Palpate the popliteal lymph node.
- d) Palpate the anal lymph node (if still available).
- e) Incise the subiliac (formerly precrural) lymph node if present (can be performed by company).
- f) Incise the superficial cervical (formerly prescapular) lymph node (can be performed by company).
- g) Incise the supramammary or superficial inguinal lymph node if present (can be performed by company).

Part 4: Species-specific PM examination procedures

4.1 Sheep and goat PM procedures

Sheep/Goats and Lambs Option 1	Sheep/Goats and Lambs Option 2	Sheep/Goats and Lambs Option 3
Carcass PM examination procedures	Carcass PM examination procedures	
View and palpate external surfaces, joints (other than hocks). View hocks. View the front of the hind legs. Palpate popliteal lymph nodes. View axillae. Palpate superficial cervical lymph nodes (formerly prescapular lymph node). View and palpate the back of the carcass. View ventral surface of the abdomen. View the sternum (brisket). View the forelegs. View the neck. Palpate the neck in adult animals and Johne's vaccinated stock.	View external surfaces including the: <ul style="list-style-type: none"> • Joints of the hind legs, and popliteal area; • Back of the carcass; • Forelegs and their joints; • Shoulders and superficial cervical area and neck. Palpate the neck in adult animals and Johne's vaccinated stock.	
	Option 2: Lift the forelegs to check that the forequarters are free of visible contamination.	Option 3: Note: lifting of forelegs is not required by PM examiner. It is a company responsibility to ensure the forequarters are free from visible contamination.
	It is a company responsibility to ensure contamination is identified and trimmed off, either by: <ol style="list-style-type: none"> (a) company personnel; or (b) the inspection service on behalf of the company, but not as part of the post mortem examination procedures. It is the company's responsibility to arrange this with the inspection service.	
View the rectal cavity. Palpate ischiatic lymph nodes.	View ischiatic area and rectal cavity.	
View pelvic cavity and iliac lymph nodes.	View pelvic cavity and iliac lymph nodes.	
View and palpate the superficial inguinal or supramammary lymph nodes. ¹ View and palpate the subiliac lymph nodes (formerly precrural lymph node).	View superficial inguinal / supramammary lymph nodes and subiliac lymph nodes (when present).	
	Palpate the popliteal and superficial cervical lymph nodes (when present) in adult stock.	
View and palpate abdominal and thoracic cavities.	View abdominal cavity and palpate ventro-lateral abdominal wall. View thoracic cavity and remnants of diaphragm.	
View and palpate the diaphragm (if present).	View and palpate the diaphragm on viscera table.	

¹ Multiple small nodes may be found rather than a single large node at certain sites, such as the superficial inguinal or prefemoral (subiliac).

Sheep/Goats and Lambs NZ – (All options)		
Tissue	Saved for human consumption as food (edible)	Not saved for human consumption as food (inedible)
HEAD		
Head	View buccal cavity and pharynx. Note: head does not need to be picked up.	Nil.
Tongue	View tongue.	Nil.
VISCERA		
Diaphragm	View and palpate.	View.
Gastro-intestinal tract	View gastro-intestinal tract. Note: In adult animals view a representative proportion of the mesenteric lymph nodes.	View gastro-intestinal tract.
Heart	View and palpate. View pericardium. Note: The company should remove the heart from the pericardium prior to PM examination.	View.
Kidneys	View both sides.	View.
Liver	View and palpate both sides (parietal and visceral surfaces). View hepatic lymph nodes. View and palpate bile ducts. Note: The degree of palpation required is that sufficient to hold and rotate the organ.	View parietal and visceral surfaces. View hepatic lymph nodes. View bile ducts.
Lungs	View and palpate lungs. Palpate mediastinal lymph nodes. View and palpate bronchial lymph nodes.	View lungs.
Pancreas	View pancreas.	Nil.
Pizzle	View pizzle.	Nil.
Spleen	View spleen.	View spleen.
Testes (including the epididymis)	View testes (including the epididymis). Note: In adult animals, view and palpate.	Nil.
Trachea	View (do not save for human consumption if lung abnormalities could involve trachea).	Nil.
Note: If ingesta is present on the thoracic viscera set, the viscera examiner must inform the carcass examiner to facilitate further examination of the forequarter.		

- (1) Mobs or lines of animals with a high incidence of CLA, grass seeds, minor pleurisy, sarcocysts or Johne's vaccination lesions may be diverted to an ancillary facility that is acceptable to the verifier.

4.2 Cattle PM procedures

4.2.1 Routine cattle PM procedures

Carcase PM examination procedures	View abdominal and thoracic cavities (including the pleura and peritoneum), and all internal and external carcass surfaces. View limb joints. View neural canal and spinal column. Incise superficial inguinal, supramammary and internal iliac lymph nodes. Incise the subiliac (precrural) and superficial cervical (prescapular) lymph nodes in cattle which are designated SPVD at ante-mortem or with tuberculous or actiniform lesions. If present, view the diaphragm and palpate the thin skirt. Edible tails must be from animals that have passed examination and are subjected to a quality control check by the operator.
Head PM examination procedures	View head, eyes and surrounding tissue, oral cavity and tonsils (as part of viewing the mucous membranes, pharyngeal cavity and associated areas of the head). Incise the parotid, retropharyngeal and submaxillary lymph nodes. View and palpate the tongue if either the tongue, masseter or pterygoid muscles are being saved as edible. View and palpate the masseter and the pterygoid muscles if either is saved as edible. Where the operator's processing room staff do not have the skills to recognise suspect <i>T. saginata</i> cysts, each masseter and pterygoid muscle must be incised at least once.
Viscera PM examination procedures	
Lungs	View and palpate lungs. View trachea. Incise the left and right bronchial, anterior mediastinal, middle mediastinal, posterior mediastinal and right apical lymph nodes. If trachea or lungs are to be saved as edible, then open and examine trachea and main branches of the bronchi.
Heart	View and palpate all external surfaces of the heart and view the pericardium. Open the heart by cutting through the wall of the left ventricle, the interventricular septum and the atrioventricular orifices. View the internal surface of the heart and muscular surfaces exposed by the incisions. Palpate the internal surface of the heart and muscular surfaces exposed by the incisions. Make one incision from the base to apex into each of the cut surfaces of the interventricular septum. Make one incision parallel to these into each side of the internal surface of the left ventricle about 10 to 20 mm from the base of the septum. Make the incisions at least 75 mm long and sufficiently deep for adequate examination (but not so deep as to penetrate the outer surface of the heart).
Thymus	View the thymus in young cattle.
Liver	View and palpate both sides of the liver. Incise the hepatic lymph nodes. If liver is edible, incise major bile ducts anterior and posterior to the cystic duct. Do not incise if liver has a disease or defect that will obviously designate it pet food, or if the bile ducts are obviously infected with fluke.
Diaphragm	View the diaphragm and palpate the thin skirt.

Gastro-intestinal tract	View the oesophagus, reticulum, rumen, pancreas, intestines and mesenteric lymph nodes. The mesenteric lymph nodes must be incised in all cattle designated SPVD. View and palpate the rumino-reticular junction.
Spleen	View both sides of the spleen.
Kidneys	View kidneys.
Reproductive organs	View pizzle or uterus. If saved for edible, view testicles and epididymis.
Udder	If saved for edible, view, palpate and incise udder.

4.2.2 PM procedures for tuberculosis in cattle

- (1) Additional procedures for TB reactor animals or animals in which lesions suspicious of tuberculosis are found:
- (2) Incise the following lymph nodes thinly (approximately 2-3 mm) and carefully examine cortex for tuberculous lesions:
 - a) Left and right bronchial;
 - b) Anterior, middle and posterior mediastinal;
 - c) Right apical.
- (3) Also incise and view the following lymph nodes:
 - a) Abdominal viscera:
 - i) Renal.
 - ii) Mesenteric.
 - b) Carcase:
 - i) Popliteal.
 - ii) Iliac.
 - iii) Prepectoral.
 - iv) Superficial cervical (Prescapular).
 - v) Ischiatic.
 - vi) Lumbar chain.
 - vii) Atlantal (may be on the head).
 - viii) Subiliac (Precurral).

4.2.3 PM procedures for *Cysticercus bovis*/*Taenia saginata*

- (1) This part applies to cattle that are suspected of *Taenia saginata* infection. These are animals that are:
 - a) detected at post mortem examination with a suspect cysticercus cyst;
 - b) from a *Taenia saginata* Surveillance listed farm;
 - c) "MPI Surveillance" *Taenia saginata* suspect tagged bovine animals; or
 - d) declared on the accompanying Animal Status Declaration as being under MPI movement control for the purposes of *Taenia saginata* control.
- (2) All animals from a line (i.e. an affected line) presented for slaughter that includes any animal as described above must be examined and processed as below.
- (3) Examination procedures additional to the routine New Zealand post mortem examination procedures for these cattle are as follows:
 - a) After the external masseter and internal pterygoid muscles have been dropped or removed from the head, make two deep incisions into the external masseter and one deep incision into the internal masseter, and view and palpate all exposed muscle surfaces.

- b) After the tongue has been dropped or taken off, view and palpate. Then make a ventral longitudinal midline incision through the suspensory muscle of the tongue, and view.
 - c) Make two additional incisions each parallel to and midway between the edge of the heart and the incision that was made into the internal surface of the ventricle. Make an additional incision into the interventricular septum. Incisions should be equal in depth and extent of the routine incisions but should not penetrate the outer surface of the heart. View and palpate heart and muscular surfaces exposed by the incisions.
- (4) Suspect *T. saginata* carcasses for export must be examined in accordance with relevant export requirements.

4.2.4 PM procedures for cattle that have received Johne's Disease vaccine

- (1) In cattle that have received a Johne's Disease vaccination, the following additional PM examination procedures must be completed:
- a) Palpation of the muscles lateral and parallel to the ligamentum nuchae at or about the likely site of injection and removal of all identified lesions. Incisions may have to be lengthened where there are suspicions the lesions have migrated along the lymphatics of fascial planes; and
 - b) Incision of the superficial cervical (pre-scapular) lymph nodes and, if signs of vaccination in the dewlap, the axillary lymph nodes, and removal of the nodes where lesions are found.

4.3 Farmed deer PM procedures

4.3.1 Routine PM procedures

Carcase PM examination procedures	View the pleura, peritoneum and all internal and external carcass surfaces. View the iliac, lumbar chain and renal lymph nodes. Palpate the subiliac (precrural) and supramammary / superficial inguinal lymph nodes. Incise the superficial cervical (prescapular) lymph nodes. View both sides of the diaphragm. View and palpate the enucleated kidneys. If saved for edible, palpate testicles and epididymis.
Head PM examination procedures	View head, eyes, oral cavity and tonsils (as part of viewing the mucous membranes, pharyngeal cavity and associated areas of the head). Incise the parotid, retropharyngeal and submaxillary lymph nodes. View and palpate the tongue.
Viscera PM examination procedures	
Lungs	View and palpate lungs (view dorsal and diaphragmatic surfaces). View trachea; incise if saved for edible. Incise the left and right bronchial, the apical and the mediastinal lymph nodes.
Heart	View, palpate and open the pericardium. View and palpate the outer surface of the heart.
Liver	View and palpate both sides of the liver. Make a longitudinal incision which passes through the major bile ducts, parallel to the long axis of the liver. Incise the hepatic lymph nodes.
Diaphragm	View both sides of the diaphragm.
Gastro-intestinal tract	View the oesophagus (if edible), caul fat (mesentery), reticulum, rumen, pancreas (if edible) and intestines. View and palpate the mesenteric lymph nodes.
Spleen	View the spleen.

Kidneys	View and palpate the enucleated kidneys. View renal lymph nodes.
Reproductive organs	View pizzelle (palpate if edible) or uterus. If saved for edible, palpate testicles and epididymis – these may be palpated through any overlying integument (including the scrotum) and plastic bag.

- (1) Note: Edible tails and tendons must be from animals that have passed examination and are subjected to a quality control check by the operator.

4.3.2 PM procedures for tuberculosis in farmed deer

- (1) Additional procedures for TB reactor animals or animals in which lesions suspicious of tuberculosis are found:
- (2) Incise and view the following lymph nodes:
- a) Abdominal viscera:
 - i) Renal.
 - ii) Mesenteric.
 - b) Carcase:
 - i) Popliteal.
 - ii) Atlantal.
 - iii) Iliac.
 - iv) Prepectoral.
 - v) Ischiatic.
 - vi) Lumbar chain.
 - vii) Precrural/Subiliac.
 - viii) Superficial inguinal/supramammary.

4.3.3 PM procedures for farmed deer that have received Johne's Disease vaccine

- (1) In deer that have received a Johne's Disease vaccination, the following additional PM examination procedure must be completed:
- a) palpation and deep incision of the muscles lateral and parallel to the ligamentum nuchae at or about the likely site of injection and removal of all identified lesions. Incisions may have to be lengthened where there are suspicions the lesions have migrated along the lymphatics of fascial planes.

4.4 Wild (feral) deer PM procedures

4.4.1 Routine PM procedures

Carcase PM examination procedures	View the pleura, peritoneum and all internal and external carcass surfaces before and after skinning. View the iliac, lumbar chain and renal lymph nodes. Palpate the subiliac (precrural) and supramammary/superficial inguinal lymph nodes. Incise the superficial cervical (prescapular) lymph nodes. View both sides of the diaphragm. View and palpate the enucleated kidneys. If saved for edible, palpate testicles and epididymis.
Head PM examination procedures	View head, ears, eyes, oral cavity and tonsils (as part of viewing the mucous membranes, pharyngeal cavity and associated areas of the head).

	Incise the parotid, retropharyngeal and submaxillary lymph nodes. View and palpate the tongue.
Viscera PM examination procedures	
Lungs	View and palpate the lungs (view dorsal and diaphragmatic surfaces). (Note: the lungs must be examined, but cannot be used for edible purposes). Incise the left and right bronchial, the apical and the mediastinal lymph nodes.
Heart	View, palpate and open the pericardium. View and palpate the outer surface of the heart. Note: the heart must be examined, but cannot be used for edible purposes.
Liver	View and palpate both sides of the liver. Make a longitudinal incision which passes through the major bile ducts, parallel to the long axis of the liver. Incise the hepatic lymph nodes. Note: the liver must be examined, but cannot be used for edible purposes.
Diaphragm	View both sides of the diaphragm.
Kidneys	View and palpate the enucleated kidneys. Note: the kidneys must be examined, but cannot be used for edible purposes. View renal lymph nodes.
Reproductive organs	View pizzle (palpate if edible). If saved for edible, palpate testicles and epididymis – these may be palpated through any overlying integument (including the scrotum) and plastic bag.

4.4.2 PM procedures for tuberculosis in wild deer

- (1) Additional procedures for animals in which lesions suspicious of tuberculosis are found:
- (2) Incise and view the following lymph nodes:
 - a) Abdominal viscera:
 - i) Renal.
 - b) Carcase:
 - i) Popliteal.
 - ii) Atlantal.
 - iii) Iliac.
 - iv) Prepectoral.
 - v) Ischiatic.
 - vi) Lumbar chain.
 - vii) Subiliac (Precural).
 - viii) Superficial inguinal (Supramammary).

4.5 Bobby calf PM procedures

Carcase PM examination procedures	View abdominal, thoracic and pelvic cavities. View the neck, back, brisket and ventral surfaces of the carcass. View the forequarters, axillae, hind legs and limb joints. View all exposed lymph nodes.
Head PM examination procedures	If head is saved for human consumption, view buccal cavity and pharynx If tongue is saved for human consumption, view the cleaned tongue. No head examination is required if only the brain is being saved.

Viscera PM Examination Procedures	
Lungs	View both sides. If trachea or lungs edible, incise in the posterior third of the lungs, perpendicular to their main axes and incise the trachea and main branches of the bronchi.
Heart	View (after the pericardium has been opened).
Thymus	View thymus if saved for edible.
Liver	View both sides of the liver, especially the umbilical fissure. View hepatic lymph node.
Diaphragm	View both sides.
Gastro-intestinal tract	View the abomasum (vell), intestines. If saving for edible, view both surfaces of the mesentery, oesophagus and pancreas.
Spleen	View spleen.
Kidneys	Lift and view
Reproductive organs	View testicles if edible.

4.6 Camelid PM procedures

Carcase PM examination procedures	View external and internal surfaces. Incise superficial cervical lymph nodes. Palpate popliteal, subiliac, superficial inguinal/supramammary lymph nodes View iliac lymph nodes.
Head PM examination procedures	View head, eyes and oral cavity. Incise and view parotid, retropharyngeal and submaxillary lymph nodes. View and palpate tongue if edible.
Viscera PM Examination Procedures	
Lungs	View trachea and lungs. Incise bronchial and mediastinal lymph nodes. Incise trachea and palpate lungs if edible.
Heart	View pericardium and heart. Palpate heart if edible.
Thymus	View thymus if edible.
Liver	View parietal and visceral surfaces and bile ducts. Palpate liver and bile ducts if for edible. Incise hepatic lymph nodes.
Diaphragm	View both sides.
Gastro-intestinal tract	View the oesophagus, stomachs, spleen, intestines, peritoneum and omentum. View and palpate mesenteric lymph nodes. View pancreas if edible.
Spleen	View spleen.
Kidneys	View kidneys (both sides) and renal lymph node. Palpate kidneys if edible. Note: Kidneys from adult animals with more than six permanent incisors are not to be saved as edible.

Reproductive organs	View uterus. View testicles and palpate if edible.
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Post mortem anatomy comments:

- Camelid lymph nodes may be small and multiple, rather than single and large and may be difficult to locate – inadvertent removal may occur during dressing procedures such as head removal and neck trimming.
- Stomach in 3 compartments, intestinal tract otherwise similar to other ruminants – small intestine, spiral colon, large intestine together with a small caecum.
- Caudal edge of liver may have finger-like projections and is normal.
- Kidneys slightly larger than in sheep but a similar shape – proportion of medulla to cortex opposite to that of sheep.

4.7 Horse PM procedures

Carcase PM examination procedures	View the carcass, pleura and peritoneum. View the supramammary lymph nodes. In young animals, view and palpate the joints and umbilical area. In grey or white horses, incise the subrhomboid lymph nodes and view the muscles of one shoulder beneath the scapular after loosening the attachment.
Head PM examination procedures	View head, oral cavity and throat (after freeing the tongue). Palpate the parotid, submaxillary and retropharyngeal lymph nodes. View and palpate the tongue if edible.
Viscera PM examination procedures	
Lungs	View and palpate lungs. View trachea. If the lungs are edible, the main branches of the bronchi must be opened lengthwise and the lungs must be incised in their posterior third, perpendicular to their main axis and the trachea incised. Palpate bronchial and mediastinal lymph nodes.
Heart	View pericardium. View and incise heart by cutting through the ventricles and the interventricular septum lengthwise.
Liver	View and palpate liver and hepatic lymph nodes.
Diaphragm	View.
Gastro-intestinal tract	View gastro-intestinal tract. View the gastric, mesenteric and pancreatic lymph nodes. If edible, view the mesentery and oesophagus.
Spleen	View.
Kidneys	View and palpate enucleated kidneys. Incise the kidney in grey and white horses.
Reproductive organs	View udder if edible. View genital organs in stallions and mares.

4.8 Pig PM procedures

4.8.1 Routine pig PM procedures

Carcase PM examination procedures	View external and internal carcass surfaces, scrotal area, joints, peritoneum, pleura and iliac lymph nodes. Palpate any castration wounds or scars. View and palpate the superficial inguinal/supramammary lymph nodes and incise these lymph nodes in adult breeding animals. View the diaphragm, kidneys and renal lymph nodes if present.
Head PM examination procedures	View the head, exposed muscle surfaces, tongue and head lymph nodes. View submaxillary lymph nodes if presented in head
Viscera PM examination procedures	
Lungs	View and palpate the lungs, and the bronchial and mediastinal lymph nodes. View the trachea. View submaxillary lymph nodes if presented with the pluck If lungs or trachea are edible, also: (a) incise the bronchial and mediastinal lymph nodes, (b) incise the trachea and the main branches of the bronchi, and (c) make a transverse incision into the posterior third of the lung.
Heart	View heart and pericardium
Liver	View both surfaces of the liver. View and palpate hepatic lymph nodes.
Diaphragm	View
Gastro-intestinal tract	View oesophagus (if edible), stomach, intestines and omentum. View and palpate the mesenteric lymph nodes.
Spleen	View
Kidneys	View kidneys (after enucleation) and renal lymph nodes
Reproductive organs	View and palpate the mammary glands in adult breeding animals. View the uterus. View and palpate the testicles and epididymis if saved as edible.

4.8.2 Procedures when tuberculosis-like lesions are found during routine examination.

- (1) The following additional examination procedures are carried out if tuberculosis-like lesions are identified during routine carcass or viscera examination:
- a) Palpate the liver.
 - b) Incise the following carcass/head lymph nodes:
 - i) Anterior cervical.
 - ii) Iliac.
 - iii) Lumbar chain.
 - iv) Popliteal.
 - v) Precurral/subiliac.
 - vi) Prepectoral.
 - vii) Prescapular/superficial cervical.
 - viii) Superficial inguinal/supramammary.
 - c) Incise the following visceral lymph nodes:
 - i) Bronchial.
 - ii) Hepatic.

- iii) Mediastinal.
- iv) Mesenteric.
- v) Renal.